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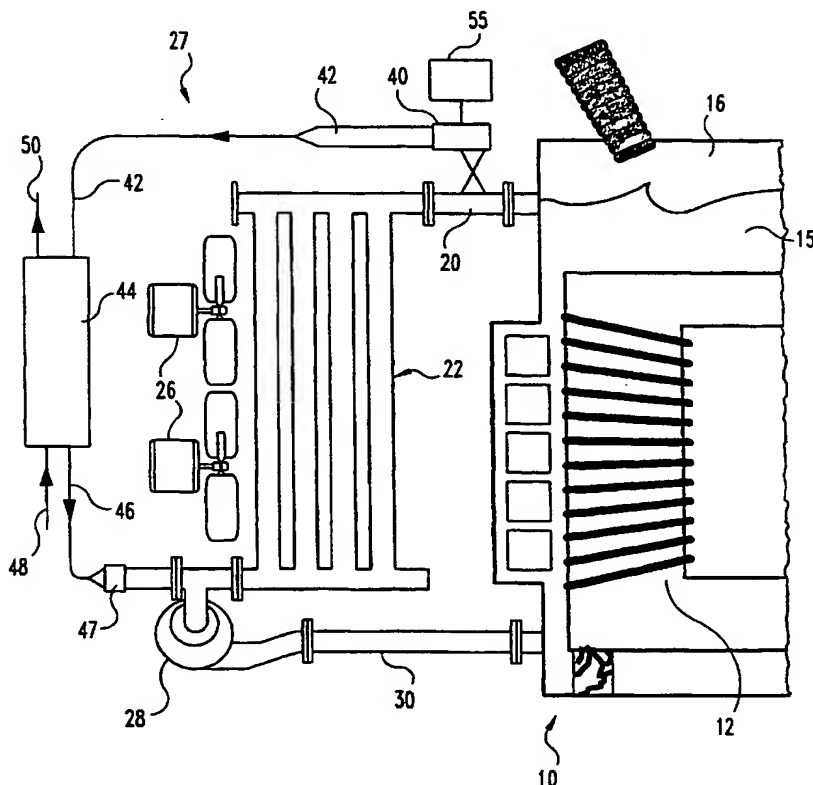
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(54) Title: **APPARATUS AND METHOD FOR COOLING POWER TRANSFORMERS**



(57) Abstract: A system (27) for reducing the temperature of cooling oil for a power transformer (12) includes a heat exchanger (44) interposed in the cooling oil system. The heat exchanger (44) relies upon a liquid-to-liquid exchange of heat from the heated oil to a coolant flowing through the heat exchanger. In one embodiment, the coolant provided to the heat exchanger is obtained from an absorption chiller (65). Heat energy is provided to the chiller (65) from a heat storage device (80). In a specific embodiment, the heat storage source (80) can be a phase change material device. In a preferred cooling system, a programmable controller (55) determines the activation and operation of the system. The controller (55) can sense transformer or cooling oil temperature to trigger activation. In a preferred embodiment, the controller (55) compares a current temperature history against a temperature profile to anticipate increased cooling requirements. In certain embodiment, excess, off-peak or waste heat from the transformer (12) itself is provided to the heat storage device (80) or to the phase change heat exchanger.

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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

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# INTERNATIONAL SEARCH REPORT

International Application No

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## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H01F27/10 H01F27/12

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H01F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 043 511 A (TRANSFORMATOREN UNION AG) 13 January 1982 (1982-01-13) page 4, line 11 -page 5, line 26; figure ---	1, 12, 21
A	US 3 579 162 A (SAVKAR SUDHIR D) 18 May 1971 (1971-05-18) column 2, paragraph 1; figure 2 ---	1, 12, 21
A	US 4 936 109 A (LONGARDNER ROBERT L) 26 June 1990 (1990-06-26) cited in the application -----	

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☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

Int. l. Application No

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